

WHAT IS CLAIMED IS:

1. A system comprising:
an automated circuit switchover system embedded within a telephone central office;
a technician terminal for use by telephone network operations personnel;
a test and control system coupled to the technician terminal and to the automated circuit switchover system within the telephone central office; and
a switchable protection circuit remotely located from the telephone central office and coupled to the telephone central office via a communication link, the switchable protection circuit supporting a plurality of active individual communication lines and an unused spare communication line, each of the active individual communication lines configured to support communication of traffic from end user subscribers supported by the active individual communications lines connected to the switchable protection circuit to the telephone central office, the switchable protection circuit responsive to the test and control system and including logic to respond to a specific command sent from the test and control system to switch a selected one of the plurality of active individual communication lines to the unused spare communication line and to activate the spare communication line in response to the specific command to support communications traffic over the spare communication line.
2. The system of claim 1, wherein the special command is sent from the test and control system in response to a technician command processed at the technician terminal.
3. The system of claim 2, wherein the technician command is initiated in response to a subscriber reported problem with one of the plurality of individual communication lines.

4. The system of claim 1, wherein the plurality of individual communication lines are DS1 lines.
5. The system of claim 1, wherein the communication link is a multiplexed T1 line.
6. The system of claim 1, wherein the technician terminal has an interface to enable a user to enter a circuit trouble ticket into a circuit trouble ticket reporting system.
7. The system of claim 1, wherein the special command is a specific sequence of program codes.
8. The system of claim 1, wherein a command is sent from the test and control system to the automated circuit switchover system to automatically implement a circuit change at the telephone central office that corresponds to the change to the spare communication line made at the remote switchable protection circuit.
9. The system of claim 1, wherein the switchable protection circuit supports seven active lines and one hot spare line.

10. A method of responding to a subscriber communication line problem report, the method comprising:
receiving a reported problem associated with an individual subscriber communication line;
entering a trouble ticket into a trouble ticket tracking database using an operations terminal;
initiating a test of the individual communication line using an automated test system, the automated test system responsive to the operations terminal;
determining whether the individual subscriber communication line is supported by a remote switch protection device;
sending a program code to the remote switch protection device to request the remote switch protection device to swap the individual subscriber communication line with a spare communication line;
sending a switch-to-spare circuit command to a telephone exchange, the telephone exchange including a telephone circuit communicatively coupled to the individual subscriber communication line and to the remote switch protection device, the telephone exchange automatically switching the telephone circuit from the individual subscriber communication line to the spare communication line; and
reporting a corrected circuit condition.
11. The method of claim 10, further comprising communicating the corrected circuit condition to the subscriber that initiated the problem report.
12. The method of claim 10, wherein an automated circuit switchover system embedded within the telephone exchange performs the step of automatically switching the telephone circuit from the individual subscriber communication line to the spare communication line.

13. The method of claim 12, wherein the automated test system comprises a test and control system, the automated test system coupled to the operations terminal and configured to communicate with the automated circuit switchover system within the telephone exchange.
14. The method of claim 10, wherein the remote switch protection device includes a switchable protection circuit, the remote switch protection device coupled to the telephone exchange via a communication link, wherein the switchable protection circuit supports a plurality of active individual communication lines and an unused spare communication line, each of the active individual communication lines configured to support communication of traffic from end user subscribers supported by the active individual communications lines connected to the switchable protection circuit and to the telephone exchange.
15. The method of claim 14, wherein the switch protection device includes logic to respond to the program code sent from the automated test system, and where the switch protection device selectively connects one of the plurality of active individual communication lines to the unused spare communication line and activates the spare communication line to support communications traffic over the spare communication line.

16. A method of responding to a subscriber communication line problem report, the method comprising:

initiating a test of an individual subscriber communication line using an automated test system, the automated test system responsive to an operations terminal trouble ticket report relating to a reported problem associated with the individual subscriber communication line;

communicating a program code to a switch protection device supporting the individual subscriber communication line, the program code to request the switch protection device to swap the individual subscriber communication line with a spare communication line;

communicating a switch-to-spare circuit command to a telephone exchange, the telephone exchange including a telephone circuit communicatively coupled to the individual subscriber communication line and to the switch protection device via a DS1 communications link, the telephone exchange automatically switching the telephone circuit from the individual subscriber communication line to the spare communication line; and

reporting a corrected circuit condition for the individual subscriber communication line.